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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,618	11/07/2001	Neil S. Casa	5300-17	4190

7590 05/16/2006

Thomas Langer, Esq.
Cohen, Pantani, Lieberman & Pavane
551 Fifth Avenue
Suite 1210
New York, NY 10176

EXAMINER

FOX, CHARLES A

ART UNIT	PAPER NUMBER
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3652

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/007,618	Applicant(s) CASA, NEIL S.	
	Examiner Charles A. Fox	Art Unit 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-12 and 20-34 is/are pending in the application.
- 4a) Of the above claim(s) 10-12,20 and 21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-34 is/are allowed.
- 6) ☒ Claim(s) 1-7,9,12 and 22-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

This application has been reassigned to examiner Charles A. Fox.

The indicated allowability of claim 1 is withdrawn in view of the newly discovered reference(s) to Tabrizi et al. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-7,9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabrizi et al. in view of Takabayashi. Regarding claim 1 Tabrizi et al. US 6,315,512 teaches a system for handling wafers comprising:

a transfer chamber (406a) interposed between the ambient atmosphere and a process chamber held at a vacuum;

wherein said transfer chamber is subjected to alternating pressurization and depressurization corresponding to the process chamber and atmospheric pressures respectively;

at least two paddles fixed within said transfer chamber (not numbered) for holding substrates thereon;

valves (418a,420a) for sealing the transfer chamber from the atmosphere and the process chamber. Tabrizi et al. do not teach any particular type of paddle for the transfer chamber. Takabayashi US 5,923,408 teaches a paddle (107) for holding a wafer by exerting a negative pressure on a back side thereof;

wherein said negative pressure is lower than the prevailing pressure in the chamber in which the paddle is located;

said negative pressure is created via a main conduit that provides a flow path between said paddle and a vacuum source;

valves for opening and closing the conduit flow paths;

wherein a flow connection between the vacuum pump and the chamber is provided;

wherein the paddle has a plurality of conduits attached to said main conduit.

It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the device taught by Tabrizi et al. with vacuum paddles as taught by Takabayashi in order to securely hold the substrates during operation of the device.

Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Takabayashi. Regarding claims 22 and 23 the admitted prior art (page 3 line 24-page 5 line 7 of the specification) teaches a wafer measurement method comprising the steps:

transferring a wafer from an ambient atmosphere through a first gate valve onto a paddle in a transfer chamber while the transfer chamber is isolated from the inspection chamber by a second gate valve;

closing the first gate valve to seal said transfer chamber;

lowering the pressure in the transfer chamber until it approached the pressure within the inspection chamber;

opening the second gate valve and placing the wafer in the inspection chamber;

inspecting the wafer and returning it to the paddle in the transfer chamber;
closing said second gate valve and repressurizing the transfer chamber to the ambient pressure. The admitted prior art does not teach a vacuum paddle for holding the wafer. Takabayashi US 5,923,408 teaches a method for holding a wafer comprising the steps:

exerting a negative pressure on a back side thereof;
wherein said negative pressure is lower than the prevailing pressure in the chamber in which the paddle is located;
said negative pressure is created via a main conduit that provides a flow path between said paddle and a vacuum source;
providing valves for opening and closing the conduit flow paths;
wherein a flow connection between the vacuum pump and the chamber is provided;
wherein the paddle has a plurality of conduits attached to said main conduit. It would have been obvious to one of ordinary skill in the art, at the time of invention to modify the methods taught by the prior art by providing a vacuum paddle as taught by Takabayashi in order to securely hold the wafers in a predefined position during operation of the device.

Regarding claims 24 and 25 Takabayashi further teaches that after the wafer is processed the flow of gas between the vacuum pump and the paddle is stopped such that the wafer may be lifted from the paddle, wherein said conduit flow paths are in direct communication with the interior of the transfer chamber. It would have been

Art Unit: 3652

obvious to one of ordinary skill in the art, at the time of invention to release the wafer from the vacuum paddle after the process step requiring the paddle is completed in order to move the wafer to either the ambient environment or the inspection chamber.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and Takabayashi as applied to claim 22 above, and further in view of Tabrizi et al. The admitted prior art and Takabayashi teach the limitations of claim 22 as above, they do not teach providing a laminar flow of gas to their device. Tabrizi et al. teach providing a laminar flow of gas to a region to help prevent contamination. It would have been obvious to one of ordinary skill in the art, at the time of invention to modify the methods taught by the admitted prior art and Takabayashi by providing a laminar flow of gas as taught by Tabrizi et al. in order to help prevent the dispersion of contaminants within the system.

Response to Amendment

The amendments filed on February 23, 2006 have been entered into the record.

Allowable Subject Matter

Claims 27-34 are allowed. The admitted prior art and the closest cited art of Tabrizi et al. do not teach or suggest a dual wafer load lock that is operated as set forth in claim 27. Claims 28-34 which depend from claim 27 are also in condition for allowance.

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

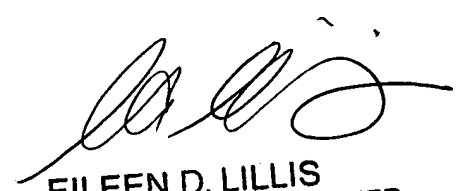
Art Unit: 3652

The prior art made of record and not relied upon, but considered pertinent to applicant's disclosure is: van de Ven et al. 1994, Altwood et al. 2000 and Kraus et al. 2005.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles A. Fox whose telephone number is 571-272-6923. The examiner can normally be reached between 7:00-4:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen D. Lillis can be reached at 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EILEEN D. LILLIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

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